COST *and* MANAGEMENT

THE OFFICIAL JOURNAL OF

THE CANADIAN SOCIETY OF

COST ACCOUNTANTS & INDUSTRIAL ENGINEERS

Telephone 2 - 0700

INCORPORATED 1920

HEADQUARTERS. 601-602 MACKAY BUILDING,

66 KING STREET EAST, HAMILTON

R. Dawson, R.I.A., F.F.C.S., F.C.I. (Eng.), Secretary-Manager and Editor

Vol. XVIII. August, 1943 No.7

. . CONTENTS . .

EDITORIAL 194
ACROSS THE SECRETARY'S DESK 195
LITERATURE RECEIVED 196
NEW MEMBERS 196
ANNUAL MEETING 196
REPORT OF THE PRESIDENT 197
MANAGEMENT-SCIENCE, VOCATION OR PROFESSION 201
COSTING FOR VALENTINE TANKS 209
COSTING FOR A CATERING BUSINESS 218

Subscription price to non-members, $5 a year. Single copies 50 cents. Members desiring 5 copies or more of a single issue may obtain them at 25 cents each.

EDITORIAL

At Long Last

At long last, after almost four years of war, it begins to look as though Accountants as a profession will be recognized by the government and be subject to registration as in the case of scientists and engineers as Technical Personnel. A meeting was recently held in Ottawa under the supervision of the Bureau of Technical Personnel, at which a number of Accounting bodies, including The Society of Industrial and Cost Accountants of Ontario and The Cost and Management Institute of Quebec, were represented. The purpose of the meeting was to endeavour to find a method for the registration of qualified accountants in order, if possible, to establish a reservoir of members of the profession. The urgent necessity for such a proceedure has been evident for a long time to those who have realized that industry and the government were fast being denuded of qualified accountants to the detriment of the war effort generally. At long last, as we have said, those in authority have now realized this and by the time these lines are read it is probable that some concrete form of registration will be in effect. The difficulty is to clearly define the meaning of the term "Accountant." Almost everyone who has anything to do with books or accounts is called, often wrongly, an accountant, and an Advisory Committee which will likely be set up by the Bureau of Technical Personnel will, in all probability, face the task of saying what is an accountant, which is all to the good. This Advisory Committee will be composed of representatives of the various professional Accounting Societies, is well fitted for this task and will perform its duties in an impartial and capable manner. The pity of it is that this proposed registration has been left so long. This corner has repeatedly urged the government to exempt qualified Accountants from service in the armed forces, not because we feel that such men do not desire to do their duty in time of war, but rather because we long ago realized the fact that industry and certain departments of the government could not carry on efficiently so long as their numbers were being so sadly reduced by induction into the army without any thought whatever given as to their value in the war effort at home. This has not been a claim for special privileges to a select body of men, but an effort to point out that such men could best serve the cause in their own particular field. We have repeatedly scorned the man power policy and the policy of taking men from many walks of life into the army without thought as to their value in other spheres. Accounting is a profession, it cannot be picked up by anyone at random in a few weeks or months as many members of draft boards seem to think, and by taking accountants indiscriminately from their war tasks and placing them in the army, the war effort has not been helped, it has been retarded. So we welcome this new move, but deplore the fact that it has come so late. While on the subject it might be well to point out also

that the practice of raising medical categories, without examination, is something else to be deplored, and the big task confronting the government as we see it right now is to effect some sort of co-ordination between the Department of National Defence or National War Services and the Labour Department. There never has been any co-ordination, at least none that is evident, and unless and until this is done, our war effort is being impaired.

Across the Secretary's Desk

Another Annual Meeting of our society has come and gone and, once again we say, it was the best ever. At least, if any better Annual Meetings have been held, we would like to know when and where. When it was decided some time ago to conduct this latest meeting in Windsor, as a tribute to the members in that district who, for the second year in a row won the Fernie Shield, some fear was expressed that perhaps the attendance would be far below the usual. That fear was not warranted, as was evidenced by the fact that over seventy were present for the Annual Meeting and dinner, and well over that number present for the golf game and dinner, held after all business had been transacted. Moreover, the attendance of directors was well up to the average, with Montreal, Toronto, Hamilton, Kitchener, Niagara, London and Windsor all being represented. But it was not alone from a point of attendance that made the meeting such a success, it was the amount of business transacted and, when this was over, the good fellowship displayed among those present. First, let us take the business end of the affair. The directors assembled at 4 p.m. on Friday afternoon and were in session until 6.45 p.m. Then the Annual Dinner, followed by an inspiring talk by an old friend in the person of Bob Peden, of Detroit. Then came the Annual Meeting, which lasted until nearly midnight. After that there was the reception tendered to the visiting delegates by the Windsor Chapter, and what a reception it was! Formality was flung to the winds and many members found out for the first time what a fine bunch of fellows we have in our Society. Some of them can sing, too, at least, they evidently thought so, and the strains of old songs could doubtless be heard over in Detroit. At 9.30 a.m. next morning, the directors convened again, and this meeting lasted until after noon. Then some of the delegates went to Detroit to take in a ball game, but the vast majority went to the golf game and later to dinner. Some of us went home by the afternoon train, to the strains of "can't take it any more!" Last year the directors appointed a Committee on By-Laws and this committee went to work and revamped the by-laws. They thought they had done a good job, but the members tore into the suggested by-laws, as was their right, and reworded most of them. The Windsor boys did a grand job and received the grateful thanks of a bunch of appreciative boys. Alex. Blanchard did a fine job of thanking them in formal motion. When Harold Wright finishes business and starts to play, everyone in the vicinity can be assured of a fine time. Harold was the life of the reception, ably assisted by Charlie Dumas, of Montreal, who, many of the gang met for the first time. They found out what a fine fellow Charlie is and we repeat, if there have been better

meetings we would like to know when and where. Allan Laughreen went up from Hamilton just to attend the meeting, and J. T. Ferguson went up from Toronto. These boys were not delegates, and it is a fine thing when men will travel such a distance just to gather with the rest of the gang for an Annual Meeting. A highlight of the formal affair, apart from Bob Peden's talk, was the Presidential address by Percy Wright. I do not think we have ever had a better address by a President and the delegates recognized this fact. Hal. Hetherington is the new President, but unfortunately Hal was prevented from being present through sickness. However, he is well on his way to recovery and we know that this time next year Hal will be voted as among the best Presidents we have had. He is that kind of a fellow. That may sound like "soft soaping the boss," but we mean it.

And now for a rest for a few weeks, and if we didn't need it before that Windsor trip, we certainly do now, but before we sign off here is an item of good news. Harold Wright and the writer journeyed to Belleville the Wednesday after the Annual Meeting and there established a new chapter. It meant getting to bed about 1 a.m. and getting up at 3.30 a.m. to catch the 4.13 train, but it was worth it. Hope you all enjoy your holidays.

R. D.

Literature Received

Inventory Principles and Practices.

The New York C.P.A.

A most complete article, which should be read by every accountant, either industrial or practising. It is written by Victor H. Stempf, C.P.A., which itself is enough to convince any accountant of its importance.

Depreciation Problems of Canadian Public Corporations.

The Canadian Chartered Accountant. June.

A short, but very informative article on an important subject.

New Members

Toronto Chapter.

J. A. Hourigan, Research Enterprises Ltd., Leaside, Ont.

Hamilton Chapter.

Robert McFarlane, Nicholson & Gates, Burlington, Ont.

Vancouver Chapter.

N. C. Hartley, Powell River Corporation, Powell River, B.C.

Non-Resident.

R. G. Nelles, R.C.A.F., Calgary, Alta.

The Annual Meeting

Elsewhere in this issue enough has been written concerning the recent Annual Meeting to make it plain that it was one of the best we ever held and one that will long be remembered by those who participated in it. The

attendance was particularly good, especially when it is borne in mind that Windsor is not the most accessable place in which to hold such an event, and the practice adopted in recent years of confining the activities strictly to business until all business is finished was again the vogue. The outgoing directors met at 4 p.m. on the Friday afternoon, June 18, and were continually in session until 6.45, when the meeting adjourned and the Annual Dinner was held. Immediately following this the members were treated to an exceptionally fine speech by Mr. R. W. Peden, of Detroit. This lasted until close on 9 p.m., when the members convened in Annual Meeting. The Annual Meeting did not adjourn until close on midnight, when the visiting delegates were given a reception by the Windsor Chapter, and this reception did not adjourn until a late, or shall we say, an early hour. The new directors met at 9.30 a.m. next morning and adjourned about 12.40. Then came the golf game and later the dinner, attended by well over one hundred members and guests. The by-laws of the Society were completely revamped, something which necessitated considerable time and thought and much other business of a routine nature was transacted.

Report of the President

Of the Canadian Society of Cost Accountants and Industrial Engineers at the Annual Meeting of the Society Held at Windsor, Ont., at 8 p.m., June 18, 1943

We have come to the close of another year in the life of our Society. The tide of war has now turned in our favour and while we must all realize the tremendous task which lies ahead, before unconditional surrender of our enemies will be secured, we can look forward with every confidence to the Day of Victory.

We, as a Society, have striven to meet our responsibilities to industry and to Government, as representatives in the field of industrial accounting, cost accounting and administrative management.

The bringing together of accountants, industrial managers and business men for the discussion of current problems and trends in our field of interest, the sponsoring of educational courses and the granting of degrees to successful students have been worthy of our best efforts, as a contribution to the work of expanded industry during these war years. With the coming of peace and the withdrawal of Government from business, qualified cost accountants and industrial managers will be in great demand in competitive private industry, where efficiency will, as always, be the watchword.

As your president, I visited, in company with the Secretary-Manager, the Ottawa and Hamilton Chapters, and, as their dinner guest, saw them in action on regular scheduled meeting nights. These meetings were well attended and the enthusiasm rivalled our meetings in the Montreal Chapter, with which I am so thoroughly familiar. I was entertained at a dinner, arranged by Harry Metcalfe, Chairman of the Toronto Chapter, and a group of the Toronto members of the Dominion Board. I participated in a meeting of the Committee on By-Laws arranged by Paul Kellogg at Toronto, which was also attended by Harold Wright and our Secretary-Manager, Dick Dawson. While in Toronto, and accompanied by Paul Kellogg, I paid a visit

to our First Vice-President, Hal Hetherington, who, I am glad to say, is now convalescing very satisfactorily and will soon be restored to health. We regret his absence from this meeting to-night. I would like to make further mention here of the very kind reception which I received at Ottawa, Toronto and Hamilton on these occasions.

As for the Montreal Chapter, they saw so much of me during the active session, having missed, I believe, only one meeting during the year, that they forgot to call upon me for my prepared remarks at their Annual Meeting.

I shall give you a brief summary of the year's activities and these will be supplemented by more detailed reports by the Chairmen of the various committees.

Chapters and Chapter Activities.

Twelve Chapters are in operation, three in the Western Provinces are direct Chapters of the Canadian Society, eight in the Province of Ontario are Chapters of our affiliate, the Society of Industrial and Cost Accountants of Ontario, and one in Quebec Province, the Chapter of our affiliate, the Cost and Management Institute. It is confidently expected that a new Chapter of the Cost and Management Institute will be established in Quebec City and will be ready for operation at the beginning of our Fall session.

Activities throughout the various Chapters followed the usual pattern of lecture meetings, with well qualified speakers, dealing with subjects in our field of interest. Question periods were usually held, following these addresses, with frank and interesting discussion of the subjects. Whenever possible, papers were published in the Society's magazine. A reference to the record of the subjects presented demonstrates their wartime character.

The majority of the papers had relation, in some measure, to Government contracts, wartime industries or post-war planning. Running a close second was the important subject of income and excess profits taxes. Priorities had a place on the list of subjects and management in various phases and application was dealt with extensively.

Subjects on many aspects of costing, budgetry control and payroll accounting had a prominent place on the various chapter programmes. Valuable assistance was given to our members through the papers and group discussions, which were conducted on payroll methods. Perhaps no single branch of accounting has undergone a greater revolution and expansion of detail than the humble payroll, with the multiple deductions and auxiliary information, due to wartime requirements.

This is a far cry from the day when a payroll consisted of a man's name, number, hours worked, the rate, the gross amount of his earnings and a cheque for these earnings to be handed to him at the end of the period.

We have good reports from our Western Chapters and are looking forward to their further expansion and the possibility of Provincial incorporations in the not too distant future. Edmonton Chapter reported an interesting meeting in February and an increase in their chapter membership is noted. It is to be hoped that our Secretary-Manager may be able to make a Western visit during the current year.

Membership.

Your Secretary-Manager will announce an increase of 132 members during the year, which brings our total membership to 892. For the past few

years, we have been increasing our membership at the approximate rate of 100 per year and this year's rate of 132 is a new high and augurs well for the future growth and strength of the Society.

Educational Activities.

Basic progress of great importance has been made in the field of education during the past year. For many years the Society has been sponsoring lecture courses at McGill University and the University of Toronto. This year, through the incentive of the Society of Industrial and Cost Accountants of Ontario, under the driving leadership of its President, Harold Wright, lecture courses in six subjects have been established at all Ontario universities. In addition, a complete, combined, progressive correspondence course has been compiled through the combined facilities of Queen's University, University of Toronto and University of Western Ontario. These correspondence courses are available to our members throughout Canada and they, as well as the university lecture courses, lead to the degree of Registered Industrial and Cost Accountant of Ontario, R.I.A., or Licentiate of the Cost and Management Institute of Quebec, L.C.M.I. Students in other provinces receive the Society's Certificate of Proficiency.

I would like to make special mention here of the benefit which has accrued to the whole Canadian Society through the lecture tour made by Ontario President, Harold Wright, in the Province of Ontario. He delivered at each Chapter an informative and inspiring address on "The Registered Industrial Accountant, His Opportunities and Responsibilities."

Valuable student activity and student group work was continued under the iniative of our Dominion Educational Chairman, Ken. Horton, who, a little later, will present to the meeting his complete report on Educational matters.

Employment.

At the outset of the war, we were able to place many trained cost accountants with industrial firms, as well as with the Dominion Government. These men have developed in their responsible positions. They have been helped to a great extent by the incentive and educational forum provided through their membership in our Society and have trained other members in their departments into efficient cost and industrial accountants. We have had several confirmations of this fact. Upon cessation of hostilities, our Society will be ready to play its part in the post-war rehabilitation of returned men by making available its educational organization for the benefit of accountants, young and old, who will be returning to industry under conditions of keen competition wherein efficiency and qualification of the accountant, industrial engineer and manager will be of vital importance.

Finance.

The Honourary Treasurer will report a small deficit for the year, but in view of the changes made last year, when certain avenues of revenue were dropped and which will be stated by your Treasurer, we consider that, financially, we have made an excellent showing.

I wish to devote a special paragraph of this report to tell you of my visit to the Head Office of our Society at Hamilton, where I spent half a day with our genial and efficient Secretary-Manager, Dick Dawson. This visit was most inspiring and I can assure you that the files, card indexes and

various books and records of the operations and activities of the Society are in excellent shape and we are indeed a well managed Society.

Many of our members and member's sons and daughters are on Active Service. We extend our wishes for their comfort, their safety and an early return to civilian life.

To our hosts of the Windsor Chapter, I would say that we have been happy to journey to your city and to conduct our Annual Meeting in your midst. We like to think that our Annual Meetings inspire the Local Chapter to greater efforts, and we feel sure that such will be the case with the progressive Windsor Chapter.

In closing I would wish, as your President, to extend my sincere thanks to those who have worked with me during the past year, particularly my fellow officers and hard working Secretary-Manager.

I have deemed it a great honour to serve as your Dominion President and am appreciative of the trust which was placed in me in electing me to this term of office, which has now come to a successful close.

Respectfully submitted on behalf of the Officers and Directors,

PERCY W. WRIGHT, President.

Windsor, Ont., June 18, 1943.

The New President

Mr. H. P. Wright paid a wonderful tribute to the retiring President, P. W. Wright (no relation), of Montreal, and the new President elected was Hal. M. Hetherington, of Toronto, a member who has worked very hard for a the Society over a long stretch of years. Hal is a past chairman of the Toronto Chapter and is currently Vice-President of the Society of Industrial and Cost Accountants of Ontario. Unfortunately he could not be present, due to illness, but he is progressing very favourably and expects to be back at his desk very shortly. We congratulate Hal on his election and we know that the Society has elected a man well qualified for the position and, what is more, one who has proved in the past how much he has the welfare of the Society at heart. The First Vice-President is E. J. (Eddie) Loiselle, of Montreal, another man who has worked unceasingly over a long period. He is a past chairman of the Montreal Chapter and has earned his promotion from Second Vice-President. The new Second Vice-President is Walter Furneaux, of Hamilton. Although comparatively young in years, Walter has had a long connection with the Society, of which he is one of the oldest members. The new Honourary Secretary is R. S. M. (Aussie) Ausman, of Toronto, and he is a decided addition to the list of officers. R. H. Metcalfe, of Toronto, is the new Honourary Treasurer, and a man who is destined to go places in our Society. Still quite a young man, Harry has earned his place in the councils of the Society, and with such a board of officers the Society cannot help but prosper and prepare well for the post-war years. The Secretary-Managership remains in the same hands.

Management—Science, Vocation or Profession

The Subject Matter of an Address Given Before the Cost and Management Institute at the Closing Dinner in the Engineer's Club, Montreal, Que., Friday, May 7th, 1943

By A. V. MADGE, L.C.M.I.

As your President, it is a pleasure to discuss with you a few aspects of business management. Management is our field. It should be of interest to us. Management, however, is a subject too wide in scope to cover in one hour, or one night, or one week. It was, therefore, necessary for your Council to seek some manner of limiting the remarks to be made this evening. This they did. Our subject has been confined to what may be discussed under the heading: "MANAGEMENT—SCIENCE, VOCATION OR PROFESSION?" What you will hear is a personal viewpoint. Some may not agree with this viewpoint. Some may agree with it only in part.

Our members have earned the reputation of refusing to check their intelligence at the door with their hats. I would like you to remember that reputation to-night. I would be disappointed in this group if they swallowed, undigested, my personal opinions as expressed here this evening.

Management as a Science.

Often, far too often, business executives say that such and such a thing is being done, or is to be done, in a scientific way; when what they really mean is that it is being done, or is to be done, THE WAY THEY WANT IT DONE, or THE WAY THEY THINK IT SHOULD BE DONE. Business executives are not entirely at fault when they think their management is operating on a scientific basis. The wholly self-assumed intellectual superiority of certain self-termed **authorities,** who, in our day,, have enlarged upon, and developed, and undertaken to demonstrate—often for the monetary return there is in it—theories of scientific business management, has so clouded and befuddled the minds of business men that very few of them actually realize what DOING THINGS IN A SCIENTIFIC WAY really means. It is true that business executives may use, from time to time, certain scientific principles—often without recognizing them as such—but that does not mean that his work is scientific in nature. True, the facts and principles of science are useful to, and are used in, industry. We are, however, not speaking of the laboratory or processing operations. Our remarks must be confined to management.

Scientific Attitudes.

I do not mean to infer that there is no such thing as scientific management or that scientific methods cannot be applied to management. What I do wish to stress is that if an executive honestly expects to practice scientific management methods, he must develop a scientific attitude when approaching his problems. Very few do. Here are a few scientific attitudes which business men might well heed:

1. To science, truth is immutable. Our ideas of what truth is may change—truth itself never.

2. There must be a cause for each and every effect. Natural causes can and do finally explain all strange and mysterious occurrences.
3. Facts and statements that are not fully supported by convincing proof should only be accepted temporarily and then with the reservation that they will be considered from every viewpoint before a definite conclusion is expressed. And that conclusion should be subject to change.
4. Snap judgment, superstition, good or bad luck, intuition, coincidence, single observations, blind experiments, rumour, personal opinions and guesswork have no place in science.
5. Things are not always what they appear to be.

Scientific Methods.

Although much has been written about the results obtained through controlled scientific experimentation, there is very little literature available which deals with the fundamental principles employed. About as much has been written on what constitutes a scientific experiment and how it should be conducted. Because of this, a great deal of guesswork and personal opinion that is passed off as scientific experimentation has been accepted at its face value by business men when even a science student, just starting with the fundamental principles of scientific investigation, would find hilarious aspects in the conclusions as presented.

All scientists employ essentially the same methods when conducting an experiment—even though the procedure might and does vary. The scientist first states the question—that is, he makes sure of what the question or problem is and he writes it down in clear, understandable language. He then decides just what procedure he will use in trying to find the answer. Next, the proper materials and instruments to be used in his experiments are selected. Then, proper controls are established. He then proceeds with his experiments, continually recording and dating the observations he makes. He invents check experiments; plans and makes new observations; evaluates his observations, data and procedure; adjusts errors and defects in the conditions of his experiments. Finally, from his controlled observations, the scientist gives his conclusion or answer to the problem. That answer is given only after the facts, as found, are judged to be really related to the matter under consideration; that they are sound and sensible; and that the facts are complete enough to allow a conclusion to be made therefrom. The chief difference between an ordinary experiment and one that has been scientifically conducted is that one has been made under controlled conditions without considering personal opinions, while the other is not. This is an excellent time to state, in passing, that my remarks this evening are not, and cannot be, scientific in nature.

Taylor—The Scientist.

From what we have now learned, it would seem that the great majority of executives—regardless of how brilliant they might be, or appear to be, in their chosen field—may be said to be quite uneducated, scientifically speaking. They have not developed scientific attitudes; they cannot, or will not, use scientific methods. On the other hand, Frederick Winslow Taylor, who made almost 50,000 recorded experiments and used tons of metal over a period of years in trying to discover just what was a day's work for a machinist, and who conducted thousands of other successful experiments,

earned the title "Scientist" in the highest sense of the word. Men possessing his capabilities are rare, indeed.

Conclusion—(on-Scientific).

Unless a business executive is capable of developing and using a scientific attitude, capable of hard, applied mental labour, capable of prolonged, directed concentration, and capable of ignoring his own personal opinions and the personal opinions of his associates, it is a waste of time for him to undertake the complicated task of mastering scientific management—and a further waste of time trying to convince others that he is doing his job in a scientific manner. It may be said with some assurance of truth that, as a science, management has lagged far behind the physical sciences and, moreover, that management, with but extremely rare exceptions, has not yet been developed into a science. Some day we may see the emergence of a true science of management. That day has not yet arrived. That is a personal opinion and must not be confused with a scientific conclusion.

Management as a Vocation.

The vocational aspects of management present a sharp contrast to all that has just been discussed. Prosaic business management has received the attention of some men almost since the beginning of business history. Many circumstances compelled these men to interest themselves in controlling and applying the capital and manpower engaged in the making, the buying, and the selling of those goods or services desired by other men. They had to undertake risks and assume responsibilities. They didn't do this just for the fun in it. The return for management and the remuneration for risk-bearing and responsibility may, generally, be summed up in the simple expression "monetary return." True, added incentives were provided, and are found, in the wish to secure luxuries for self and loved ones, and in the ambition to command influence and power for social esteem. The latter reasons being why so many men continue on the job when they could comfortably retire—this, to me, always seemed to be a rather tortuous way of committing suicide. In the final analysis, however, the monetary return is, generally, the magnetic force which attracts men towards business management as a vocation—an interesting vocation to those individuals who find therein a glorified game of chance and a battle of wits in which the quickest and readiest wits generally win; all of which lends an auroral tint to the job of being a business manager.

Defects in Vocational Management.

In vocational business management one may find reflected every facet of human relationship. Unfortunately, the reflection is, invariably, that of the business manager himself and his character and characteristics will dominate his entire organization. Whether it be a spirit of extreme goodwill, a spirit of kindly tolerance, a spirit of friendly helpfulness, or a spirit of domineering brute force, that spirit of the chief executive will find itself affecting all those under his jurisdiction. In some organizations, goodwill towards employees has reached the point where it interferes with their very manner of existence. No thought having been given to the employee's plan and way of life, a senior executive, in the name of goodwill and kindness of heart, will dictate where the employee shall live, what insurance he shall carry, what provision he shall make for old age, what clubs he shall or shall not join, what hobbies he shall enjoy, what political leanings he shall develop,

and where and how he shall spend his vacation. Here we find the manager's personal opinions carried to the extreme limits of human endurance. All done in the name of goodwill and protection of employees by executives who have forgotten that they are dealing with human beings and who fail to realize that directing the lives of employees is not a phase of business management.

At the opposite end of the business spectrum the policy of "dog eat dog and the devil take the hindmost" holds sway and men who are insensitive, tyranical, stupid, egoistic, selfish and plain "pig-headed" and intolerant, control through a philosophy of force and fear which, invariably, prevents their understanding their employees or their abilities. Frequently a minority of these (I almost called them executives) in number, but including the largest stockholders individually, or their relatives and friends, will dominate the policy of a business; favouring their own interests as opposed to those of the smaller but more numerous stockholders and the employees. In these cases, the actual course pursued may result from the reaction of personal likes and dislikes, ambitions, and even fear of losing control, as often as it is dictated by any purely economic considerations.

Whenever a business is run on a policy of excessive goodwill, or on a policy of excessive selfishness, one finds therein a lack of morale, an undercurrent of dissatisfaction, a lack of loyalty, and a lack of that **esprit de corps** which distinguishes a really healthy organization. It might be well to remark in passing that family corporations, where the control of a business is inherited, are, in general, a breeding ground for the most inefficient types of management. "Come hell or high water" the family traditions must be propagated.

Conclusion—(Suspected).

The two extremes of vocational business management have been presented. I leave to your knowledge and imagination all those phases which lie between. As a vocation, management presents all that is good with all that is bad and, frequently, both extremes may be found in the same organization. In summing up, it would seem that management is presently a vocation in the vast majority of cases and that it will so remain as long as success is measured by the ability of an executive to make money for himself.

Management as a Profession.

A man's profession might very well be his vocation. There is, however, a difference between a profession and a vocation. In the ordinary sense of the word, **having a profession** means that a man belongs to a collective group or body of persons engaged in or practising a particular calling, as distinguished from a collective group engaged in a trade or handicraft. Generally, professionalism means that definite objects, ideals, ethics, standards and qualifications, recognized as such by those not only within the group, but by those without it, have been attained. Specifically, it should mean that a man has completed prescribed studies, that he has been found acceptable by the group, and that, as a trained worker and thinker, he is prepared to take his place in a certain specialized field of endeavour.

The Specialist.

It should be borne in mind that belonging to a given profession and

being a specialist in that profession are two entirely different matters. Here we might liken a business to an orchestra—a symphony orchestra having many different instruments, each requiring its own definite technique. One might just as well expect the conductor to be a capable performer on each and every one of the musical instruments which make up his symphonic orchestra as to expect a business executive to be proficient in many or all the specialized jobs which occur in a modern industrial organization. The analogy might be extended to the point where recognition is given to the directive energies employed by both the orchestral conductor and the business manager—both should have acquired the necessary technique to be able to direct the men in their respective organizations so that the combined, specialized training of all may produce the harmonious results desired. The art of directing other men's efforts, when done efficiently by a trained man, whether he be an orchestral conductor or a business manager, is a specialized field by itself. The orchestral conductor and the business manager should be trained specialists in their own branch of that field. I have never yet seen a business which had the co-ordination of effort, the timing, the individual and collective ability, and the striving towards a given end found in all symphonic orchestras and most others. The reason requires little seeking. The orchestral conductor is an excellently trained man; the business man, generally, is not. The orchestral conductor has learned how to get the best out of his men; the business executive, often enough, has not even bothered to learn. The orchestral conductor knows what qualifications each man should have. The average business executive thinks he knows. This comparison could go on all night long. I believe you can visualize what would happen in a business organization if the specialized abilities found in an orchestra could be transplanted into the field of business management and employed under a trained business conductor.

Management Is Proper Control.

A manager is necessary in business because it cannot automatically run itself—except into bankruptcy. Proper control is, or should be, the aim of management. Effective control is maintained when all the operations of a business are done in the manner, time, order, and by the person or persons, planned to do it. The choice of the proper persons to do the work is the best assurance that the job will be completed as planned. The control of these persons is the best assurance that the job will be done most efficiently —and probably most economically. It would appear that management is mostly concerned with the handling of human beings, more particularly the human beings who comprise the departmental leadership of a business organization—it being assumed that these departmental leaders will exercise proper control over those under their jurisdiction.

It is not necessary for the business manager to have the specialized knowledge and experience of all the departmental heads in his organization. It is not necessary to be able to do all or any of their jobs. It is necessary to understand their function—particularly as it affects the organization as a whole. It is most essential that each individual function be guided, directed and controlled, and that no individual function is given undue importance. Executives have written about, talked about, and argued about which department of a business brings in the money, which department saves money, and which department has just a nuisance value. In each

case, the executive reveals by his viewpoint the department from which he originally sprung. Few, indeed, are the executives with the vision to see and the training to understand that profits are made, or losses incurred, by the organization as a whole—the organization over which he has, or is supposed to have, control. Fewer are the executives who realize that the over-stressing of the importance of one department is an indication of a serious managerial weakness which is bound to affect the entire outlook of the business.

Conclusion—(Desired).

Although there is little enough literature available on the subject of managing human beings in industry, and still less on the subject of understanding them, I believe that these things can be taught and learned. I believe that management can be taught as a profession and that management can become a profession to those who are willing to undertake and complete the arduous task of mastering it. I believe that the Cost and Management Institute has taken its bearings and is on its true course—that it can do much towards giving management a professional status. It would seem that our job is that of training business men to recognize the possibilities of management as a profession and the training of men for that profession. Training alone is not sufficient; in the professional manager, it must be supplemented by natural intelligence, natural ability, and "common horse sense." There is, moreover, one additional quality which the future professional manager must profess. It is what our French confreres call **l'esprit de son metier,** the feeling the professional man has towards his life work.

Other Management Fields.

We have been speaking of business management. There are, however, other business functions which common usage terms management fields. These are: Credit Management, Office Management, Traffic Management, Factory Management, Sales Management, Advertising Management and Financial Management. There are others. Those mentioned will suffice to indicate what I meant when I spoke of being a specialist. Most business men look upon these functions as being vocational pursuits. Here is a peculiar thing. Some of these vocational, specialized pursuits could, with very little effort, gain recognition as being in the profession field. To my knowledge, two of these functions actually employ, to-day, the principles of scientific analysis—even though the laboratory used differs in appearance from the impression left in our minds by Hollywood films.

Let us consider, for example, Financial Management. Instead of a laboratory equipped with Bunsen burners, retorts, microscopes and similar paraphernalia, we find a business office in which a similar analytic process is carried on by means of business statements, business statistics and computing machines. (By the way, the computing machine was first devised for use in solving scientific problems). Financial Management has a far greater opportunity of becoming a profession than has business management. Financial Management lends itself well to the personality of a man with a scientific attitude. Such men, unfortunately, are not always found in this field. What I am trying to say is that it isn't the job that makes a profession or a science. It is the general training and outlook and attitude of the vast majority of men working at that job which gives the job its status. The

medical profession would have remained a bunch of herb healers, and surgeons would have still been barbers, if a sufficient number of practitioners had not broken away, and specialized, and compelled others to recognize their worth and the worth of their standards, objects and ideals. It would seem that the only way to gain professional recognition is to do as did the first group of doctors and surgeons.

I could have spoken of the other types of managers. There is absolutely no reason why a Traffic Manager should not become a professional man. Or the Credit Manager. Or the Advertising Manager. It all rests upon the general attitude of the majority in these occupations.

Labour-Management Committees.

Our discussion would be incomplete if we failed to give some consideration to the question of management by a Labour-Management Group. It would be impossible for all the workers to take part in the management of the business in which they are employed. It requires certain capabilities to manage a business, or a department in that business. It is practically impossible for the workers, as a group, to have these capabilities—though it must be admitted that certain individual workers might and do develop managerial ability. Labour-Management Committees—when they really function—do much, indeed, for industry. I believe in them. By getting together with their workers, managers can increase production, better production methods, and better the products manufactured. This does not mean that I am in favour of turning production management, or any kind of management, over to the labour unions. Far from it. I see no place for union leaders in the management of a business or as representatives of the real workers on a Labour-Management Committee. I might change my viewpoint when union leaders no longer receive pay from the union funds for their activities, and when they start to earn their living on the job with the workers. Until that time comes, however, I shall be compelled to regard union leaders as being in a vocational pursuit which, though it brings them a good living, is, actually, entirely unrelated to business management. Management, after all, is management. I fail to understand how management could function when everyone in an organization has a voice in it. I doubt if management by a Labour-Management Group ever has, or ever will, work efficiently.

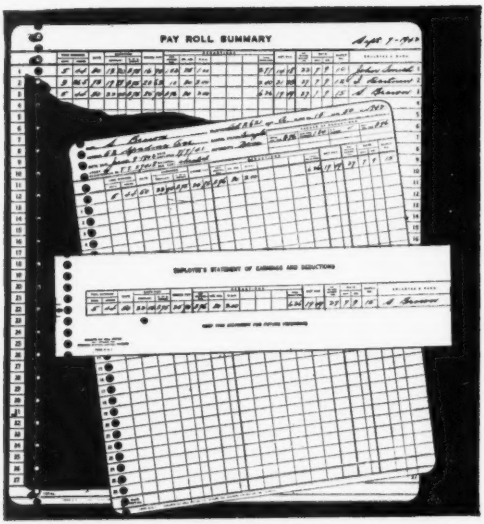
General Conclusion.

The question has been stated, "Management, is it a science, a vocation or a profession?" I have given my personal viewpoints. Being personal viewpoints, they would not be recognized as having scientific value. They are, in the final analysis, merely a statement of opinion. And what, according to my opinion, have we found? The answer may not be pleasant to the management idealist. Management is a field which should belong to trained business managers. Management, in general, is now a vocation and, in general, is likely to so remain for many years to come. Management can be, and sometimes is, a profession—a profession which can and should gain increasing recognition as its benefits to industry become more widely known. Management might, at some distant date, become a science. The art of management has progressed far since its infancy—it has not yet reached maturity.

ONE-RITE PAY ROLL SYSTEM

Canadian and U.S.A. Patents Pending.

Designed to meet Government PAY ROLL REQUIREMENTS



THREE RECORDS AT ONE WRITING

1—Pay deduction slip
2 Employee individual record leaf
3—Pay roll summary

Complete System for 50 Employees costs less than $1.00 per week.

Carried in Stock. Available for Immediate Delivery

MANUFACTURED SOLELY BY

BUSINESS SYSTEMS LIMITED

46-56 SPADINA AVENUE
TORONTO, CANADA

Vancouver — Winnipeg — Windsor — Hamilton — Ottawa — Montreal
Quebec — St. John, N.B. — Halifax.

Costing for Valentine Tanks

An Address By F. A. RUTHERFORD, C.A.

Special Accountant, Office of the Comptroller, Canadian Pacific Railway Company, Before Cost and Management Institute, Montreal

The approach to the subject of Tank Costs that I have decided upon is to place it before you as a problem that arose and an explanation of how it was solved. I trust that you will bear with me if I should go into too many details of the routine processes followed.

As you no doubt are aware, the construction of tanks in Canada was a project not even thought of prior to the commencement of this war. It was only about June or July, in 1940, when the Department of Munitions and Supply, acting on behalf of the British Government, as well as the Canadian Government, decided to embark upon a tank construction programme in Canada. Their first project of this programme was the construction of an English designed Infantry Tank, commonly called the Valentine Tank. This tank, weighing approximately eighteen tons, was to be built with specially hardened heat-treated steel, roughly two and one-half inches thick for a body, was powered with a Diesel engine set at 130 horsepower, although with a capacity of 220, and geared to travel at a speed of fifteen miles per hour. It is small in design, not a great deal larger than the average automobile, and, it would appear to me, is an architect's masterpiece in getting the maximum of equipment into the minimum of space. The tank was certainly not designed to be operated or manned by people built along the lines of your speaker this evening.

It will be appreciated that a project of this nature could not be readily handled by the average machine shops or manufacturing plants existing in Canada at that time. Such a project required a large plant, well equipped with machinery for handling heavy materials, and space available for establishment of an assembly line and for additional special machinery required. For these reasons an offer of the use of their facilities for war purposes, made by the Canadian Pacific Railway Company shortly after war was declared, was accepted by the Government, and the Canadian Pacific was asked to embark upon the project of construction of Valentine Tanks.

The first few months after receiving the "go ahead" were devoted to re-arrangements of the shops, installation of new machines when it was possible to get them, adaptation of old machines to suit the new purpose, and to the ordering of materials. During this time a group of employees, selected for their special abilities and training, were sent to England to observe the organization and operations at a plant producing the "Valentine", and upon their return they were given the task of organizing and developing the project.

While a paper on Cost Accounting is hardly the place for mention of detailed production and mechanical problems, I propose to outline a few items, since some of them also created problems from an accounting viewpoint. To start with, there were delays in receipt of the plans, and in many cases when they were received it was necessary to make changes in them. It was not always possible to obtain materials of the right quality and size and

it was necessary to obtain adequate substitutes or if it was only a matter of size, oversize substitutes were taken and these had to be machined down to the required size. Another important factor was that machinery was not always available along specialized lines and rather than expend additional large sums for new machinery, it was decided to "farm out" certain portions of the work to other firms, sub-contractors, who were equipped to handle such jobs. Still another very important feature was the fact that the Railway Company had to overhaul or otherwise maintain its rolling stock and in doing so really needed the full facilities of the plant instead of placing a considerable portion at the disposal of the Government. The facilities of fourteen of the shops at Angus were utilized in varying amounts on the project and it was quite the common thing to find a machine being used one shift for railway purposes and two shifts for munitions or vice-versa in any one shop. This feature applied to manpower as well, some men working part of their day on railway work and the balance on munitions. These items, as I've mentioned, all created problems for the accounting staff, as well as for the production people.

Work on the project was pressed with urgency, actual work on construction commencing the latter part of October, 1940. During May, 1941, the first tank was completed and others were in various stages of completion. The project, insofar as accounting was concerned, was being handled on a job cost basis (the whole project one job), and detailed unit costs of the respective parts, assemblies and completed tanks were just not available. In July, 1941, the Contractor was advised by the Department of Munitions and Supply that detailed unit costs were required. The problem was, therefore, the establishment of a costing system with some twenty or more tanks already completed, some forty or more in various stages of completion on the assembly line, parts already manufactured or machined for some hundreds of tanks and the only cost available was the total expended to date.

It was necessary to decide at once the type of cost system to be used and the decision reached was that actual detailed costs presented the easiest basis in this type of work with which the Contractor had had no practical experience. There were no standard costs available to work with, nor was it possible to get the number of trained men required to establish such costs. The Contractor was processing in the plant over two thousand of the approximately six thousand individual parts of the tank, as well as assembling the parts, sub-assemblies and assemblies before assembling them all into completed tanks, and the establishment of labour costs to any degree of accuracy by time studies presented too hazardous and too long a task.

There was, of course, certain basic information available, prepared by the designers of the tank and by the Production Department of the Contractor, which aided in the establishment of the cost procedure. Blueprint drawings of each part in the tank were available, each drawing having a number and the parts were all stamped or otherwise marked with their respective drawing numbers. There were also blueprints available showing how the various parts were assembled together and these also were numbered. These part and assembly drawing numbers formed the basis upon which all the cost records were kept. Production charts were also available which were designed to show the progress of materials through the various operations, it being essential that the Production Department should at all

times know the progress of the fabrication and assembly of the various components in order that no delays might occur on the assembly line. A staff of Material Tracers had been built up whose job it was to follow the materials from their issuance to the shops and to record on the charts the completion of the various operations in the manufacture of parts and the assembly thereof into completed tanks.

A starting point for the costing system was necessary and the only available means of obtaining this was by the taking of an inventory of materials in stores and an inventory of work-in-progress. This inventory question required a very careful study, for the shop forces had their own problems in organizing increased output and just didn't have any time to spend on the problems of the Accounting Department. Such an inventory, as you will realize, presented quite a major task. With the manufacture of some 2,100 parts going on in the shops and the assembling of these parts along with another 1,800 purchased parts into completed tanks, there was a large amount of work in process. Possibly the value of approximately $3,000,000 will also illustrate the fact that it was no easy job. Many of the parts required several different operations and these were frequently performed in different shops and the result was varying quantities at different stages of completion for the inventory. The actual taking of an inventory will be later described under the headings of "Materials in Stores" and "Work in Progress".

Before going into this detailed description, however, there is one point which I would like to explain in detail, as it applies to the whole of the inventory. As you will realize, with no labour costs available, the pricing out of the inventory of work-in-progress had to be based on costs which would be derived when the system was in operation and that these costs would be considerably lower than the costs of the earlier experimental and development stages. With great anxiety the shop forces watched the first completed tank primed and the motor started and, when it moved off the line and out of the shop under its own power, the feeling of relief among all concerned with quite evident. This tank was dismantled and the motor and transmission taken out and then re-installed a number of times in training men on the assembly line. It was, therefore, decided that the current cost determined by the costing system would be used for labour pricing and that the excess of Productive Labour expenditures over the inventory value would be treated as Preparatory Expense and the cost spread over all tanks being manufactured under the contract. It was also decided to use current material costs in pricing out the inventory of material in Stores and in Process, as many of the early material purchases were of an experimental nature and in small quantities and as a result costs were higher. The difference between the inventory at current prices and the amount actually expended for material was also to be treated as Preparatory Expense and amortized over the tanks being produced. A proportion of overhead was in a considerable manner to be assessed to Preparatory Expense.

Material in Stores.

The taking of the Stores Inventory presented no really major problem, aside from that volume, being a physical count of those materials in stores and pricing it out at the latest material unit prices. There were, however, a large number of parts in stores being supplied as spare parts which were

not issued to the shops for assembly into tanks. Motors were received as a complete unit and issued to the shops as one part, but in the stores there were about 1,000 different spare engine parts. The motor, the transmission and the traverse gear were all received as completed units for assembling, but involved some 2,500 individual parts for spares. Spare parts being supplied in accordance with the Spare Parts Scale numbered some 4,000 different items. This scale was in some aspects like a woman, quite changeable, the revisions, both as to quanties and items, coming so quickly and in such volume that it was almost impossible to complete a pack without replacing and changing parts and no two shipments, as far as I can recall, were evet the same. In addition, the problem of pricing was complicated by the fact that many items were supplied by the Department of Munitions and Supply as Government Material Issues and for which items we had no costs. Many of the sub-contractors, as well, were late in furnishing costs.

Work-in-Progress.

The inventory of Work-in-Progress may be dealt with briefly under the three cost components: Material, Labour and Overhead, as follows:

Material.

The records of the contractor showed the total quantities purchased, and with a physical inventory being taken of those materials remaining in stores, it was decided that a physical inventory of materials in process would not be necessary, the issues to the shops being verified thereby. There were, however, certain special difficulties involved that presented an extra amount of work. The Department at this time advised that it was necessary to exclude from costs the sales tax and duty, and as a result all charges to stores and to work-in-progress had to be adjusted. The fact that material issue forms average some 2,500 per month will give an idea of the task. In addition, the majority of these issue forms during the early period did not show the drawing number of the part or assembly for which it was being requisitioned. It was, therefore, necessary, after rewriting the material records, to adjust prices and show clearly the jobs for which the materials were ordered, to merely deduct the inventory of materials in stores from the total receipts and assign the balance as issued to the shops. This may seem arbitrary and dangerous, particularly from the standpoint of spoilage, but the machinery was set up to check this feature later and adjustments were effected when necessary.

Labour.

The production charts formed the main basis of preparing the inventory of Labour in Process. These charts reflected the number of articles or operations completed at each stage in the various operations and it was only necessary, in taking inventory in the shops, to compile the estimated labour expended on uncompleted operations. Inventory sheets were compiled, prior to the inventory date, covering each assembly and each part and showing thereon the various operations in the fabrication of the parts. The inventory sheets provided columns to show units and costs for completed operations and also for uncompleted operations. On the inventory date it was then necessary in the shops to estimate and show the labour expended on all uncompleted operations which would not be reflected by the production charts as of that date. Upon completion of this work in the shops, the quantities by completed operations were filled in from the production

charts. Since unit labour costs were not then available for pricing out the inventory, it was necessary to hold the inventory until costs had been obtained from the system set up subsequent to the taking of the inventory.

Overhead.

Overhead in process was set up in the inventory at a percentage of labour cost as determined in costs subsequent to the inventory. It is here noted that the treatment of overhead in the unit costs was based upon a straight percentage of direct labour cost. Overhead assignable to the project was computed in accordance with the terms of the contract and the ratio to productive labour applied throughout all unit costing. No attempt was made to compute separate overheads for the different shops in which the work was performed.

It might here be appropriate to mention that work on the project was so intermingled in the shops with the railway work that the overhead question presented quite a problem. Studies were made of various bases and the conclusion reached that it was not economical nor very practical for the small variation in net result to attempt to segregate the overhead costs by shops. Many facilities were common to the plant as a whole, such as cranes in the mid-way, the scrap dock, stores facilities, etc. It was therefore decided that a productive labour basis for apportioning the plant overhead would be followed subject, of course, to certain agreed adjustments in connection with special items.

The actual operation of the Costing System will now be dealt with under the headings of: Material, Labour and Overhead.

Material.

Since the ordering and accounting for the purchase of materials presents no major problem and is not performed by the Cost Department, this feature will not be covered and material accounting will be dealt with only from the issuance of the materials from the stores.

All materials issued from the stores must be recorded on a proper Material Requisition or Stores Issue Slip, showing thereon the respective drawing number of the part or assembly for which the material is required. The value of these issues are totalled by comptometer operators each month to provide the basis for an entry crediting stores and charging direct material. The Stores Issue Slips are then distributed on a material distribution record for segregation of the charges by drawing and assembly numbers to provide the basis for charges to the material columns of the accounts in the Cost Ledger. The material distribution for the month is summarized and the total posted as a charge to the Material in Process control account and a credit to a Direct Material Applied account. It will be noted that the Direct Material account and the Direct Material Applied account offset each other in total, but these accounts are carried forward cumulatively to record the total amount of material used in production for the Contract. This could not be readily determined from the Material in Process account because of the transfers made from Material in Process to Finished Articles.

For pricing out, the material unit cost for each drawing number or assembly number is determined from the Material Issue Slips for purchased completed parts and for parts machined but not fabricated at the plant. In the case, however, of parts manufactured at the plant from raw materials, the engineer's estimate of the quanties of materials required was applied to

the invoice cost in determining a material unit cost. This estimated material unit cost was subject to change as actual quantities used were determined. Materials spoiled, with the scrap credit therefrom, and also scrap derived from machining operations are segregated in one account and not spread over the unit material costs. The work involved to spread such charges would be out of line with the benefit derived and it was decided to allocate the net expense in this connection on an appropriate basis to the completed tank costs. The pricing out includes transfers from finished parts to finished sub-assemblies, assemblies and then to finished tanks.

Labour.

Employees on productive work show the various drawing numbers on their time cards (covering parts and assemblies). In the case of assembly line labour, seven shop orders were issued covering the major components of the tank:

(1) Hull, including Floor.
(2) Traction and Running Gear.
(3) Motive Power.
(4) Controls.
(5) Turret and Armaments.
(6) Electrical Equipment.
(7) Miscellaneous Equipment.

A further Shop Order was issued to cover Testing and Proving. The men working on the assembly line marked their time cards with the appropriate Shop Order covering the assembly work which they were performing.

A labour distribution is compiled from the time cards, and the total labour charges by drawing numbers and Shop Orders are then entered in a Labour Cost Record. The production or units completed is posted in this Labour Cost Record from the production charts and the labour unit costs computed therefrom. The Labour Cost Record is arranged in such a way that those drawing numbers for individual parts comprising an assembly are grouped together with the assembly drawing number which covers the cost of assembling. The labour expenditures for each month are then posted to a final Labour and Overhead distribution by assemblies for posting to the labour columns of the Cost Ledger.

Productive Labour charges as recorded by the payroll form the basis of a charge to the Direct Labour account. The total of the final labour distribution provides the basis of an entry crediting Direct Labour Applied and debiting the Labour in Process control account. As in the case of materials, the Direct Labour and Direct Labour Applied accounts will offset each other and cumulatively provide the total Direct Labour expended on the Contract.

The labour unit prices for pricing out from work-in-progress are taken from the Labour Cost Record, transfer entries being required to record the assembly of finished parts into sub-assemblies and assemblies and into completed tanks.

Overhead.

Overhead charges for the month as computed under the terms of the Contract are related to the Direct Labour for the month and the resulting percentage is shown at the top of the Overhead column on the final Labour and Overhead distribution. This percentage is applied to the total labour

charges for each cost unit or assembly to determine the Overhead applicable and these amounts are then posted to the Overhead column of the Cost Ledger. The total Overhead on this final Labour and Overhead distribution provides the basis for an entry debiting the Overhead in Process control account and crediting Overhead Applied.

The unit Overhead cost for pricing out completed parts and assemblies is based on an average percentage of the Direct Labour cost and is adjusted from time to time as needed, the balance remaining in process being watched to see that the ratio does not get out of line.

In addition to the pricing out of completed tanks, spare parts must also be priced out and carried to the cost of Finished Articles account. Packing charges for the packing of tanks and for the packing of spare parts are carried on separate Shop or Job Orders and apportioned to the respective shipments.

Conclusion.

The above outline only deals in a very general way with the main principles being applied in the operation of the Costing System. Followed through to a conclusion, however, the system provides the cost of all parts required, the cost of completed assemblies and the cost of completed tanks, and also affords valuable information for the Production Department regarding detailed labour and material costs. The accounts reflect the position of the project at all times and permit test checks for verification of individual Stores or Work-in-Progress accounts without the necessity of complete periodic inventories. The Preparatory Expense previously referred to was assigned as an added cost to each tank, no charge being made on this account to spare parts.

From this somewhat hurried resume of the matter, you will appreciate that the determining of the accounting principles which should properly govern such a project did not present as much difficulty as did the planning of the mechanics or technique by which a relatively small and inexperienced staff was to be enabled to produce the detailed information necessary for the preparation of complete unit costing data. Insofar as the labour factor alone was concerned, you will readily realize the magnitude of the distribution process involved in the monthly spreading of 100,000 time card charges over some 2,300 individual part, sub-assembly and assembly cost units. With the material cost factor the headaches involved were just as numerous. Here it was often found that the initial problem was to determine where the material actually was, and in what quantities, and in what condition, at a given point of time. With material being rushed from one sub-contractor to another across the country, here to be heat-treated, there to be bent and formed, somewhere else to be partially machined, I can assure you the accumulation of costs was no simple matter. Particularly so when sub-contractors would invoice on the basis merely of direct labour hours expended in a certain month, together with a flat overhead charge—there being no indication of quantities treated. When it is remembered, further, that the installation of the cost system was proceeding at a time when the actual production of tanks was in a formative and experimental phase and radical changes in both design and method were constantly occurring, you will agree, I am sure, that the situation was one which could not be dealt with entirely on a text-book basis.

Many were the hours of midnight oil that were burned in devising, revising and setting up the accounts, and I feel quite sure that it is a matter of some gratification to the officers in charge of the Company to hear from the Department of Munitions and Supply that the Valentine Tank project is a leader in providing them with the accounting information which they require. With a costing staff of only some 28 employees, this large volume of detailed clerical work is, I think, being handled at a minimum of expense to the taxpayers of Canada.

The paper this evening should really have been given by another of your guests, Mr. J. G. Cameron, C.A., Cost Supervisor of the Department of Munitions and Supply. He was asked in the first place and shall we say he kindly, or unkindly, suggested that I be asked instead. He came this evening, however, to lend his support, and has brought with him Mr. Neville, the Munitions Accountant at Angus, my former boss, whom, I'm sure, added premature years to his life in trying to keep me down to the practical side of things. I've been away from the tank work for some time now, but, with their help, I'll endeavour to answer any questions you would care to ask.

Society Directors in Session

Back Row, Left to Right—R. S. M. "Aussie" Ausman, Honorary Secretary; R. H. "Harry" Metcalfe, Honorary Treasurer; Harold P. Wright, Director, and Charles P. "Charie" Dumas, Director.
Front Row—E. J. "Eddie" Loiselle, Ist Vice-President; P. W. "Percy" Wright, Retiring President, and R. "Dick" Dawson, Secretary Manager, in session at the Annual Meeting held recently in Windsor.

3 IMPORTANT SERVICES FOR BURROUGHS USERS

INFORMATION SERVICE

There is an up-to-date reference library in each Burroughs office. It contains the latest detailed information on the application of machines to to-day's new accounting problems. This information, as well as the services of Burroughs' technical staff, is available to every Burroughs user.

MAINTENANCE SERVICE

Right now you can arrange for regular, periodic inspection, lubrication and adjustment of your Burroughs machine, so that emergencies and the delays they cause may be prevented. A standard Burroughs Service Agreement provides this efficient protection at a moderate, predetermined cost. All work is guaranteed by Burroughs.

SUPPLY SERVICE

You can also arrange for delivery of Burroughs carbon paper, roll paper, ribbons and other machine supplies manufactured to Burroughs' own specifications. Discounts range from 10% to 40% on quantity purchases under different plans that permit delivery of as little or as much as you need at any one time.

● ● ●

These services, valuable at any time, are especially valuable in wartime. Call the local Burroughs office or write

BURROUGHS ADDING MACHINE OF CANADA, LIMITED

Windsor, Ontario

Costing for a Catering Business

By JOAN TOMKINSON, A.I.C.A., A.A.I.S.

Reprinted from The Australian Accountant.

A sound costing system is as necessary for a catering concern as it is for any product of manufacture. In order to make reliable quotations for future functions on the basis of past results, it is essential that an accurate costing be established for every individual catering job.

Different classes of functions, although possessing similar characteristics, will show remarkable features in variations of profit. It is therefore valuable knowledge to be able to forecast the true results promptly so that repeat orders may be quoted for at a price which will cover all contingencies and avoid future losses.

The chief charges of a direct type for catering functions are food supplies, wages, and expenses which can be identified with any particular job. Costs which will need to be estimated and applied to jobs on some ascertained basis will be rent (where the property is privately owned a charge in the nature of rent should be recovered), gas and electricity, replacements, depreciation and general overhead charges which cannot be directly applied. It may also be necessary to include in the costing a charge for supervisory wages where supervision is provided by a manager. This charge is also necessary should the proprietor make a charge against the business for his own services. In any case it is more prudent to include some charge for his service, as even if he does not draw a specific wage, portion of the profits which eventually accrue to him will be in respect to his management.

It may also be necessary, if cooking is involved, to charge some kitchen wages on an estimated basis where these payments cannot be directly apportioned against the jobs.

The catering referred to in this text is in the nature of dances, wedding receptions, meetings, etc., although outside work at customers' own homes could be treated similarly with the elimination of rent, gas and electricity charges. Travelling expenses and delivery charges would also then enter into the costing.

A job card will be opened bearing the number which has been allotted to each function and the total of the amounts entered on these cards should agree with the balance on a control account, which will be created by the transfer of the various expenses, etc. It is assumed for this article that the cost accounts are to be kept in the General Ledger so the control account mentioned will in effect represent the trading statement of the concern for cost purposes.

If it is desired to keep the cost accounts in a separate ledger, then interlocking control accounts in the General Ledger and Cost Ledger will be necessary. Cost Ledger Control Account in the General Ledger will then first receive all the financial charges relating to costs. The financial information would next be embodied in the Cost Ledger by debiting the various expense accounts therein and completing the double entry with corresponding credits to the General Ledger Control Account so as to preserve always an equal balance on this account with Cost Ledger Control Account in the General Ledger. Cost entries would be made between the various accounts in the Cost Ledger by transfers on a double entry system.

Assuming, then, that the cost accounts are kept in the General Ledger, food supplies and direct wages will be entered on the job cards individually and debited in total to the control account under their respective headings, supplies and wages accounts being credited. Direct expenses will be similarly treated.

A basis for charging rent to individual jobs will have to be ascertained. The charge could be based on turnover or on time, but the latter method will probably prove best. If possible, the time occupied in the previous year's jobs should be aggregated and the total number of hours divided into the annual rental paid in order to produce an hourly rate. However, where a previous year's aggregate is not available, some estimate of the hours during which the premises are likely to be occupied for catering can be made and the rate ascertained.

The job card will record the number of hours for each function. This time will then be multiplied by the hourly rate and the amount charged against the job. The total of these amounts will be debited to the Control Account and the credit made to Rent in Process Account, to which latter account the payment for rent will be debited as it is made. At the close of trading the balance on this account representing underabsorbed or over-absorbed rent will be transferred as a special item to Profit and Loss Account.

Suitable bases for applying the other expenses to costs will need to be established. A practical knowledge of the business would provide data upon which the various rates may be ascertained.

The following accounts illustrate the effect of the above costing scheme:

Supplies Account

To Purchases	£27	10	0	By Control Account	£27	10	0

Direct Wages Account

To Cash	£20	0	0	By Control Account	£20	0	0

Direct Expenses Account

To Cash	£5	5	0	By Control Account	£5	5	0

Rent in Process Account

To Cash	£26	0	0	By Control Account	£22	0	0
				P. & L. A/c Underabsorbed Rent	4	0	0
	£26	0	0		£26	0	0

Depreciation and Replacements in Process Account

To Depreciation Reserve	£2	0	0	By Control Account	£2	14	3
Crockery Replacements		10	0				
P. & L. A/c Overabsorbed							

Expense		4	3			
	£2	14	3		£2	14	3

Supervisory and General Wages in Process Account

To Proprietor's Current Account	£6	0	0	By Control Account	£5	8	6
				P. & L. A/c Underabsorbed Wages		11	6
	£6	0	0		£6	0	0

Gas, Electricity and General Expenses in Process Account

To Cash—Gas	£2	10	0	By Control Account	£5	8	6
Electricity	1	15	0	P. & L. A/c Underabsorbed Expense		12	0
Laundry		10	0				
Piano tuning....		10	6				
Decoration		15	0				
	£6	0	6		£6	0	6

Catering Costs Control Account

To Supplies	£27	10	0	By Current Jobs Revenue	£108	10	0
Direct Wages	20	0	0				
Direct Expenses	5	5	0				
Rent in Process	22	0	0				
Depn. and Replac. in Process	2	14	3				
Supervisory and General Wages in Process	2	14	3				
Gas, Elec. and Sundry Expenses in Process	5	8	6				
	£88	6	3				
Profit and Loss Account—transfer	20	3	9				
	£108	10	0		£108	10	0

Profit and Loss Account

To Underabsorbed Rent	£	4	0	0	By Catering Costs Control Account—transfer	£20	3	9
Underabsorbed Gas, Elec., and Sundry Expenses		12	0		Overabsorbed Depreciation and Replacements		4	3
Underabsorbed Supervisory and General Wages		11	6					
Net Profit	15	4	6					
	£20	8	0			£20	8	0

COSTING FOR A CATERING BUSINESS

Job Card Analysis

Job No.	Hours	Supplies	Direct Wages	Direct Expenses	Rent	Depn. and Replac.
101	6	7 10 0	5 0 0	2 10 0	6 0 0	15 0
102	6	7 10 0	5 0 0	2 0 0	6 0 0	14 3
103	8	10 0 0	8 0 0	10 0	8 0 0	1 0 0
104	2	2 10 0	2 0 0	5 0	2 0 0	5 0
	22	27 10 0	20 0 0	5 5 0	22 0 0	2 14 3

Job No.	Gas, Elec., and Sundries	Super. and Gen. Wages	Total	Revenue	Profit	Percentage
101	1 10 0	1 10 0	24 15 0	30 0 0	5 5 0	17.5%
102	1 8 6	1 8 6	24 1 3	28 10 0	4 8 9	15.57%
103	2 0 0	2 0 0	31 10 0	40 0 0	8 10 0	21.25%
104	5 0	10 0	8 20 0	10 0 0	2 0 0	20%
	5 8 6	5 8 6	88 6 3	108 10 0	20 3 9	18.606%

In the illustration given, wages, supplies and direct expenses have been made as direct charges against the jobs with which they are identified. Rent has been charged at an hourly rate of £1 per hour. As the total time occupied by the jobs, as shown by the Job Card Analysis, was 22 hours, therefore only £22 of the rental, viz., £26, was absorbed into costs, leaving a balance of £4 on Rent in Process Account representing the unabsorbed rental.

Depreciation was debited to Depreciation and Replacements in Process Account and credited to a Depreciation Reserve (it could similarly have been credited direct to a Plant Account) and an amount of 10/- was spent on crockery replacements. The basis for charging depreciation and replacements into costs was 2½% on revenue, so that £2/14/3 was absorbed, which is 4/3 more than actual expenditure or an overabsorption to that extent.

Charges for gas, electricity and sundry charges not applicable to any particular job were charged into Sundry Expenses in Process Account and costs charged with 5% on revenue to cover these amounts. In this case the expenditure was underabsorbed by 12/-.

Supervisory and general wages, also charged on the basis of 5% on revenue, were underabsorbed by 11/6.

Sales are credited to the respective jobs individually and in total to the Catering Costs Control Account. The balance remaining on this account reveals the profit as disclosed by the Job Card Analysis and is transferred to Profit and Loss Account. To this account are also transferred the under and overabsorbed amounts from the various expense accounts. The final net profit as disclosed in this account is exactly similar to the profit figure

shown by the general profit and loss account, as under, but it is obvious which method gives the more valuable and revealing information.

General Profit and Loss Account

To Supplies	£27	10	0	By Catering Revenue....	£108	10	0
Direct Wages	20	0	0				
Supervisory and General Wages	6	0	0				
Rent	26	0	0				
Depreciation and Replacements	2	10	0				
Gas, Elec. and Sundry Expenses	6	0	6				
Direct Expenses	5	5	0				
	£93	5	6				
Net Profit	15	4	6				
	£108	10	0		£108	10	0

COST STUDIES PUBLISHED BY THE SOCIETY

(Copies available at 50 cents each).

Accounting System, Planning a Factory ..... Oct., 1942
After Victory—What? ..... Dec., 1942
Automobile Assembly Costs and the Financing of Sales. A. C. McAlpine ..... Sept., 1932
Aviation in Canada—History and Development of ..... Feb., 1942
Bank, Office Machinery in a. Angus Macdonald ..... Mar., 1930
Bankruptcy, Factors Contributing to. L. N. Buzzell, C.A. ..... Aug., 1934
Bonus Methods. P. E Dufresne ..... May, 1933
Bread Bakery Costs ..... May, 1940
Brewery, Cost System for a. W. J. Cope ..... Jan., 1937
British Empire Content Certificat—Preparation of ..... May, 1939
Budgetary Control. John Fowler ..... Jan., 1934
Budgetary Control as an Aid to Business Profit ..... Dec., 1939
Budgetary Control, Cost Accounting and. K. A. Mapp ..... July, 1934
Budgetary Control ..... July, 1934
Budgetary Control ..... Oct., 1942
Budgetary Controls That Control ..... Apr., 1940
Business, Control of, Through Budget. H. C. Perry ..... Sept., 1938
Business Organization. William Snaith ..... July, 1937
Canning—Food Accounting for Raw Materials in. C. & M. ..... Feb., 1943
Clear Thinking in Management ..... June-July, 1942
Co-ordination of Production and Distribution ..... Oct., 1939
Contract Cost Accounts ..... Feb., 1941
Contract Bonus System Wage Incentive System ..... Mar., 1942
Costs and Profits ..... Nov., 1942
Cost Accounting ..... June, July, Aug., 1941
Cost Records—Simplification of ..... Feb., 1943
Costing—Marginal and Conventional ..... Jan., 1941
Costing—Review Your. C. & M. ..... Apr., 1943
Cost Plus—Contract System ..... June-July, 1942
Carbonated Beverages, Costs in. C. D. Landell ..... Dec., 1935
Chocolate Company, Cost System for. Geo. F. Cassidy ..... Aug., 1935
Government Purchases, Cost Accounting for ..... Dec., 1940
Cost Application—Newer Fields in ..... Apr., 1940
Cost Finding, Methods of. D. R. Patton, C.A. ..... Apr., 1936
Cost Studies on Proposed Change in Process. C. E. Shumaker ..... May, 1931
Cost System of The Norton Co. A. S. Merrifield ..... May, 1929
Costs and Overhead in a Department Store. A. E. Walford, C.A. ..... July, 1931
Cash and Balance Sheet Budgeting. A. G. Howey ..... Dec., 1937
Cost Accounting for Distribution and Selling ..... Jan., 1938
Cost Accounting by Machine Method. G. W. Kemp ..... Mar., 1938
Cost Accounting, Efficiency of. W. Johnston ..... Aug., 1938
Cost Problems in Relation to Power ..... Mar., 1941
Credit Executive, His Work and Philosophy. E. E. Webster ..... Mar., 1939
Credit Man, The—and Management. Chas. P. Dumas, M.C.I., L.C.M.I. ..... Mar., 1942
Daily Newspaper, Costing a ..... June-July, 1938
Daily Reports, A Plan of ..... Oct., 1942
Department Store Management and Accounts, Some Phases of. G. F. Klein ..... Sept., 1930
Depreciation on the Basis of Business Volume, Fixing. B. W. Lang ..... Feb., 1935
Depreciation A Practical Time Saving Plan of Accounting for Fixed Assets and ..... Dec., 1941
Differential or Marginal Costs ..... April, 1939
Distribution, Cost of. G. H. Armstrong ..... Dec., 1934
Differential or Marginal Costs. R. G. H. Smails ..... Apr., 1939
Economics of Cost Accounting. E. D. McCallum ..... May, 1930
Electrical Power Cost, Control of. H. R. Hatcher ..... Jan., 1933
Electrical Power Costs. A. N. Sainte Marie ..... Feb., 1933
Exchange Fluctuations in Relation to Accounting. A. E. Cutforth, F.C.A. ..... Sept., 1933
Executive Training, A New Technique in. A. B. Gates ..... Aug., 1936
Executive Requires From the Cost Accountant, What the. C. D. Landell ..... Nov., 1936
Excess Profits Tax. C. & M. ..... Aug., 1942
Excess Profits Tax Act ..... Mar., 1941
Factory Accounting System, Planning a ..... Oct., 1942
Financial Officer—The Chief and Business Management ..... Feb., 1943
Fire and Use & Occupancy Insurance. A. J. Mylrea ..... July, 1932
Fraud in Accounts—Irs Prevention and Detection. H. W. Blunt, C.A. ..... Aug., 1934
Fuel for Thought. W. T. Brickenden, B.A.Sc., M.E. ..... June, 1936
Fixed Assets—Accounting For. P. W. Wright ..... Jan., 1939
Foundry Costs. J. E. Carruthers ..... May, 1943
Gas Company, Accounting and Costing Problems of a. E. J. Tucker ..... Sept., 1934
Chocolate and Confectionery Factory, Cost System for ..... Sept., 1940
Group Bonus System of DeForest Radio Corporation, Ltd. ..... Oct., 1930
Group Incentives. R. Presgrave ..... June, 1932
Hydro Electric Power Costs. R. A. C. Henry ..... Nov., 1937
History and Development of Accounting. S. D. Reavely ..... Feb., 1938
Industrial Costs—A Major Factor in ..... Feb., 1940
Industrial Engineering, Advantages of. P. E. Dufresne ..... May, 1931
Industrial Engineer to Accountancy Department, Relation of. F. H. Vercoe ..... Apr., 1935
Industrial Relations. F. M. Morton ..... Apr., 1938
Incentive and Security, Balancing of. R. E. Flanders ..... Dec., 1938
Inventories—The Cost Approach to ..... Dec., 1941
Income and Excess Profits Taxes as They Relate to Corporations ..... Dec., 1942
Insurance of Employment. Sir James Woods ..... Apr., 1938

COST AND MANAGEMENT

Inter-Play of Brewery Costs ..... **Aug., 1939**
Inventory, Preparation and Taking of. C. H. Black ..... Apr., 1930
Inventory, Preparation and Taking of. J. A. Parkhill ..... Apr., 1930
Inventory Control. H. Latter ..... Nov., 1930
Inventory Method—Last In-First Out ..... Feb., 1941
Job Analysis. Harry Taylor ..... May, 1936
Labour's Aims and Responsibilities. R. J. Watt ..... Jan., 1939
Labour Costs—Control of ..... Feb., 1940
Labour Incentives. W. S. Ferguson, C.A. ..... Jan., 1937
Labour Measurement Through the Bedaux Method. J. J. Armstrong ..... Sept., 1934
Last In - First Out—Inventory Method. C. & M. ..... Feb., 1941
Laundry Industry To-day. H. E. Holyoak ..... July, 1932
Managerial Control. Duncan C. Ferguson ..... July, 1936
Management's Aims and Responsibilities. L. H. Brown ..... Jan., 1939
Management's Responsibility to Society. A. W. Robertson ..... Nov., 1938
Manufacturing Expense—Distribution and Control of ..... Jan., 1941
Minimum Wages in Relation to Costs. Gus Francq ..... Apr., 1936
Montreal Tramways Contract. Arthur DuPerron ..... June, 1932
Maintenance Expenditure, Control of. E. M. Detwiler ..... Mar., 1938
Mining Accounting. Frank Wilcox ..... Mar., 1939
Municipal Taxation in Canada, Problem of ..... Dec., 1939
Municipal Costs, The Practical Treatment of ..... Aug., 1940
Municipal Councils, Costing For ..... Aug., 1940
New Industry, Launching a. R. R. Thompson ..... Apr., 1930
Newspaper, Making of a Modern. P. J. Salter, C.A. ..... Jan., 1933
Newsprint Industry, Accounting in the. P. H. Hunt ..... Jan., 1936
Operations Control of Through Effective Organization ..... May, 1941
Office Management—This Job of. C. & M. ..... Apr., 1943
Overhead Variations—Analysis of ..... Mar., 1942
Overhead Expenses in Relation to Production Volume. C. & M. ..... Sept., 1942
Packing House—Costs In ..... Mar., 1941
Payroll Methods in Wartime ..... May, 1941
Production Cost From a Control Post. G. A. Rochford ..... Mar., 1938
Paint Industry, Costs in the. P. Probyn, C.A. ..... May, 1930
Perpetual Inventory and Stores Control. D. R. Patton, C.A. ..... Feb., 1933
Plant Ledger, Installation and Control of a Modern. J. P. Masterson, C.G.A. Sept., 1929
Plant Engineering in Relation to Costs. W. T. Brickenden ..... Jan., 1935
Plant Expenditures and Depreciation—Control of ..... May, 1940
Price Control—Trends in ..... Nov., 1942
Priorities ..... **June-July, 1942**
Production Management—Recent Developments in ..... Mar., 1940
Public Utility Accounting ..... Apr., 1939
Price Control—Adminstration of ..... Apr., 1942
Profitable Sales Prices, Their Costs and Proof of Both. T. Smyth ..... Jan., 1935
Punched Card Method of Accounting ..... Nov., 1939
Purchasing Policies, Constructive. F. A. Hayes ..... Oct., 1938
Railway Costs. H. C. Reid, B.A., M.S. (Trans.) ..... Mar., 1943
Reports, Presentation of, From an Executive Viewpoint. J. J. McHardy ..... Sept., 1934
Rubber Industry, Cost Accounting in. J. Graham Barrow ..... June, 1929
Rubber Industry, Accounting Control in. H. P. Nellis ..... June, 1929
Sales and Distribution Expense, Control of. David M. Farish, C.A. ..... July, 1932
Sales Statistics. Martin I. Pierce ..... Aug., 1932
Sales Analysis as a Medium of Control ..... Nov., 1939
Sales Manager, The—and Management ..... **June-July, 1942**
Scope of Industrial Engineering in Industry. Harry F. Wilson ..... June, 1931
Sales Manager and the Cost Department ..... Oct., 1939
Selling Prices, Relation of Costs to Determination of. E. A. Camman ..... Sept., 1938
Standard Costs. Paul E. Gnaedinger ..... Oct., 1935
Standard Costs—What Are ..... Apr., 1942
Standardized Costs. R. J. Mouncey ..... Dec., 1938
Standard Costs, Principles of ..... Nov., 1940
Standard Cost Procedure, General Consideration of ..... May, 1939
Standard Costs, Objectives of. E. A. Green ..... Sept., 1938
Spruce Lumber Manufacturer, Cost Accounting for. C. & M. ..... Oct., 1941
Steel Fabricating Industry—Cost Accounting in ..... Jan., 1942
Steel Canister Industry, Cost System for. D. Peddie ..... Nov., 1932
Steel Tube Industry, Cost Accounting in ..... Aug., 1939
Textile Plant, Process Costs in a. K. M. Horton ..... May, 1934
Time Study—Relation of, With Cost Accounting. G. Lowe ..... Oct., 1938
Time and Motion Studies, The Cost Accountant and. C. & M. ..... Aug., 1942
Traffic Management in Modern Industry in Wartime. Guy Toombs ..... Mar., 1943
Unemployment Insurance. C. & M. ..... Sept., 1941
Unemployment Insurance Act and Its Regulations. C. & M. ..... Sept., 1941
Unemployment Insurance and Its Implications ..... Apr., 1941
Visible Cards and Administration ..... Dec., 1942
Wage Office—Function of. Gordon Lowe ..... Jan., 1939
Works Organization and Layout ..... Apr., 1940
War Contracts—Costing of. R. W. Adams, C.A. ..... May, 1943
War Orders and Overhead Distribution ..... Feb., 1942
War Time Prices and Trade Board Regulations ..... Feb., 1942
War Contracts—Cost Accounting on ..... Nov., 1942
War Production Order—Costing On ..... Jan., 1943